



# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

SUBJECT: Installing AUX band in TS-820  
(receive only)

No. 12  
DATE 1/18/77

The following information is for the installation and alignment of the AUX band in the TS-820. This extra band will be for receive only. Reference will be made to schematics and board layouts as shown in the Service Manual.

## INSTALLATION

1. Remove top and bottom covers.
2. Remove the connectors from the PLL Assembly X60-1010-00.
3. Remove the PLL Assembly X60-1000-00 and set it aside.
4. Use the board layout of the Coil Pack X44-1140-00 to locate the positions for the ANT and MIX coils on the Coil Pack X44-1140-00.
5. Install the ANT and MIX coils on the Coil Pack X44-1140-00.
6. Remove both covers from the PLL Assembly X60-1010-00.
7. Remove the 5 phillips screws holding the PD Unit X50-1340-00 in the PLL Assembly X60-1010-00 and carefully remove the PD Unit.
8. Use the board layout of the PD Unit X50-1340-00 to locate Q11.
9. Install R01, R02, C01, C02, and X01 as needed for the band desired.
10. Locate terminals AUX, B1, B2, B3, and B4 on the PD Unit X50-1340-00.
11. Install a jumper from the AUX terminal to the B terminal for the band desired. B1 is for 1.8MHz to 9MHz, B2 is for 10MHz to 18MHz, B3 is for 19MHz to 24MHz and B4 is for 25MHz to 30MHz.
12. Replace the PD Unit X50-1340-00 in the PLL Assembly X60-1010-00.
13. Use a 3mm nutdriver to remove the 4 hex nuts mounting the VCO Unit X50-1330-00 in the PLL Assembly X60-1010-00, then remove the two phillips screws.
14. Carefully remove the VCO Unit X50-1330-00 from the PLL Assembly X60-1010-00.
15. Use the board layout of the VCO Unit X50-1330-00 to locate Q11.
16. Install C01, C02, C03, C04, C05, and T11 as needed for the band desired. (Install T11 last)
17. Replace the VCo Unit C50-1330-00 in the PLL Assembly X60-1010-00.
18. Install the connectors on the PLL Assembly X60-1010-00.

## ALIGNMENT

1. Turn on TS-820
2. Tune VFO to 250.
3. Set band switch to AUX.
4. Set the TUN/NOR switch on the VCO Unit X50-1330-00 to TUN.
5. Connect a frequency counter to terminals TP5 and TP6 on the VCO Unit X50-1330-00. (TP6 is ground.)

6. Adjust T11 for a frequency of 9.08MHz plus the lower limit of the band desired.
7. Connect a frequency counter to TP4 and ground on the PD Unit X50-1340-00 and verify the frequency of the reference oscillator. It may vary  $\pm 500\text{KHz}$ .
8. Return the TUN/NOR switch on the VCO Unit X50-1330-00 to the NOR position.
9. Turn off the TS-820.
10. Replace the covers on the PLL Assembly and reinstall it in the TS-820.
11. Replace the top and bottom covers on the TS-820.

CAUTION

Do not use magnetized tools when working on the PLL Assembly X60-1010-00. Beryllium tools would be better than ferrous ones. If the PLL Assembly X60-1010-00 should become magnetized, use a bulk tape eraser on open core AC transformer to demagnetize it.